

TWO NEW SPECIES OF NEOKOLLA CLOSELY RELATED
TO GOTHICA

(Homoptera: Cicadellidæ)

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For many years collections of North American leafhoppers have contained a series of specimens under the name *Neokolla gothica* which were variable in size and coloration. It was necessary for the work of Dr. H. H. P. Severin* upon insect vectors of virus plant diseases to focus attention upon the western specimens and thus reveal the fact that the common species on the west coast is distinct from the common eastern form. In attempting to find the range of the western species a third one was found to occur in Arizona. The California species is being described as *severini* and the Arizona species as *aridella*.

NEOKOLLA GOTHICA (Sign.)

Tettigonia Gothica Signoret, 1854, Ann. Ent. Soc. Fr. p. 345.

The vertex of *gothica* is bluntly produced, about three fourths as long at the middle as the basal width between the eyes. Length 5.5 to 6.5 mm.

Color yellowish to gray, often reddish, with black markings on the vertex in the form of two "horseshoes" with the open end basally. These are on the basal half of the vertex. There is a black spot at apex and a black line either side enclosing the reflexed portions. A black line extends from the inner end of the suture posterior to the arcs through the ocellus to the base.

The female posterior margin of the seventh sternite is angularly produced. Male plates elongate tapering to pointed apices. The style is long scarcely narrowed at apex and bluntly rounded. The ædeagus consists of an erect caudal portion which is broad in lateral view with a sharp pointed erect spine-like structure on either side at about middle which is as long as the broad portion and proximal to it on each side. The cephalad portion is composed of a pair of broad structures which are some distance apart.

This is the common eastern form and extends west of the Mississippi River, probably to the Rocky Mountains in certain states.

The larger size and internal genital structures will easily separate it from the western species.

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Neokolla severini DeLong, new species

In form and coloration resembling *gothica* but smaller, and with a blunter head and with distinct male genital structures. Length 5.5 to 6 mm.

Vertex produced and bluntly angled, almost one third wider between the eyes than the median length.

Color similar to that of *gothica*. The vertex ground color is grayish often tinted with reddish. There is a black spot at the apex. There is an area on each margin about half way between the apex and the eye, separated from the disc by a black line and which encloses several dark arc-like lines. A black line extends from the inner basal margin of this area to the ocellus which is enclosed in a black ring. A black line extends forward from the ocellus, curves on the disc to meet the curved line from the opposite side, from which point they are directed basally for a short distance as contiguous lines. There is also a black dash near the base on either side between the ocellus and the eye. The anterior third of the pronotum is pale with black markings. The posterior two thirds is black. The scutellum is gray, often tinted with red, with black lines extending from either side at about the middle to the pronotum. The elytra are usually dark with a few pale markings, and the veins are inconspicuous, often obscured. The face is pale with traces of faint arcs.

The posterior margin of the seventh sternite strongly angularly produced to a blunt apex. Male plates elongate, concavely narrowed on the inner margins to form narrow rather blunt apices. Plates about four times as long as the width of each at base. Styles rather short, broad at base and curved inwardly to form a blunt apex. Aedeagus simple, in ventral view the apex appears slightly enlarged and notched at middle forming two rounded apical lobes. At the base is a pair of dorsally directed processes.

Holotype male and allotype female and male and female paratypes collected at LARKMEAD, in SONOMA COUNTY, CALIFORNIA, from periwinkle or running myrtle (*Vinca minor*) during 1947 by Dr. H. H. P. Severin. A series of male and female paratypes are at hand collected at Oak Creek Canyon, Arizona, August 1 and 15, 1938; Chiricahua Mts., Ariz., Sept. 14, 1938; Huapai Mts., Ariz., July 6, 1938; Huachuca Mts., Ariz., July 20, 1937; Flagstaff, Ariz., July 30, 1938; Congress Jct., Ariz., June 14, 1937; all by D. J. and J. N. Knull.

For many years this species has been identified as *gothica*. I take pleasure in dedicating it to Dr. Severin who has performed so much excellent work upon plant disease transmission

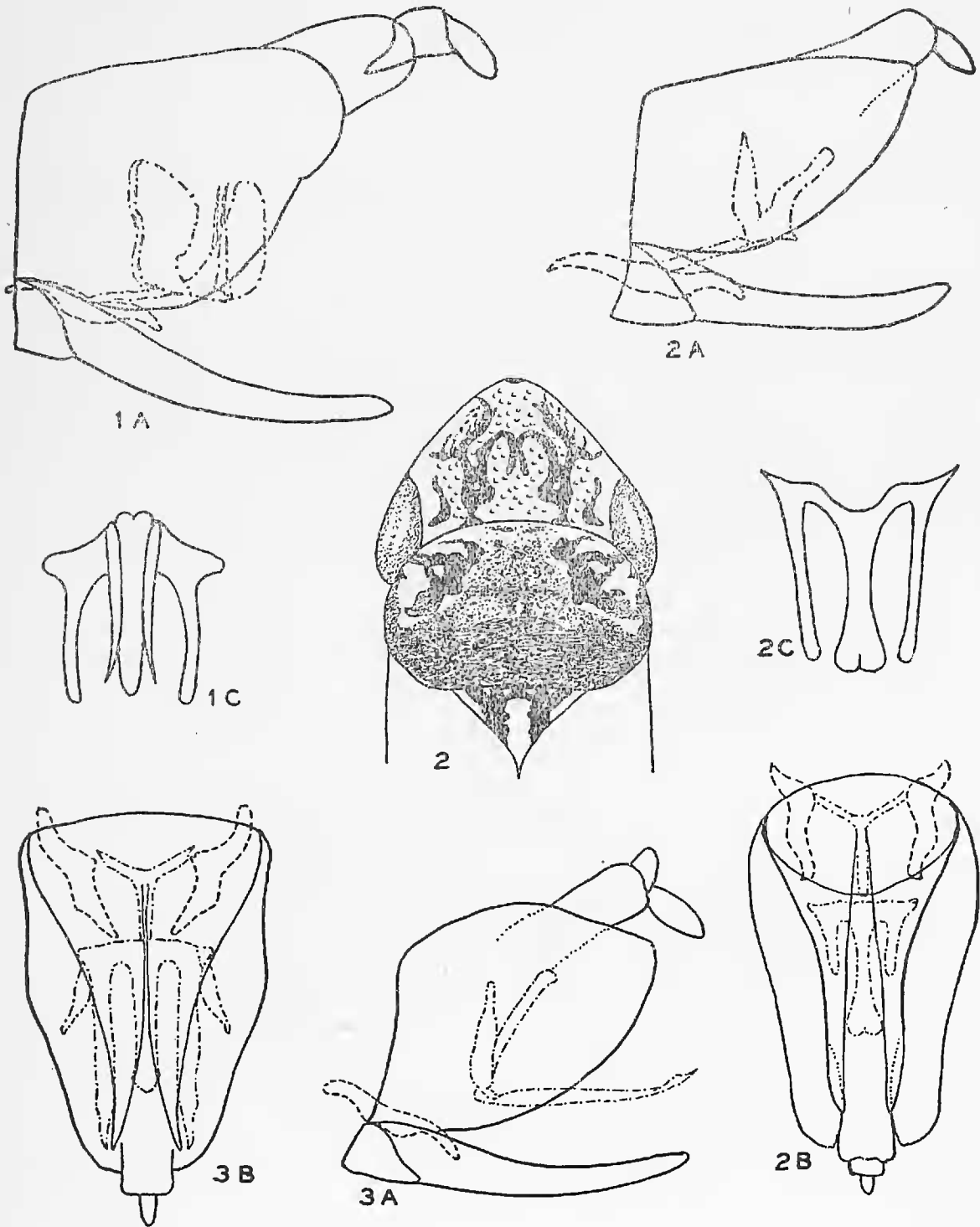


Fig. 1a. *Neokolla gothica*, lateral view of male genitalia; 1c. caudal view of aedeagus. Fig. 2. *Neokolla severini*, dorsal view of head, pronotum and scutellum; 2a. lateral view of male genitalia; 2b. ventral view of male genitalia; 2c. caudal view of aedeagus. Fig. 3a. *Neokolla aridella*, lateral view of male genitalia; 3b. ventral view of male genitalia.

by insect vectors. This species he has discovered is a vector of the virus of Pierce's disease of grapevines and alfalfa dwarf.

Neokolla aridella DeLong, new species

Resembling *gothica* in form and appearance but a little smaller and with distinct male genital structures. Length, male 5mm.

Vertex bluntly, angularly produced, about two thirds as long at middle as the basal width between the eyes.

Color vertex, anterior portion of pronotum, and scutellum tawny marked with black; posterior portion of pronotum and elytra gray. The vertex has a black spot at the apex surrounded by a pale ring, the reflexed portion is heavily marked with black and a black line extends from the inner end of the impressed groove through the ocellus to base. The two black loops or "horseshoes" usually found on the basal portion are fused on the inner margin so as to form a median black longitudinal line on the basal two thirds. The anterior portion of the pronotum is rather heavily marked with black. The scutellum appears mostly black, with tawny margins, a few spots at base and a conspicuous median apical spot on apical half. Elytra dark gray with pale veins on apical portion. Face black with white mottling.

The posterior margin of the seventh sternite of the female is strongly produced, sloping on each side to form a blunt angle at apex. The male plates are long, concavely tapered on outer margin to form narrow, pointed apices. The styles are rather short and the apices are bluntly pointed. The ædeagus is composed of a pair of long blade-like processes that extend caudally. These are well separated and are sharp pointed. At the base of these structures is a pair of erect processes which are shorter and extend dorsally. Between these is a single media process which extends dorsally and slightly caudally and appears to attach to the margin of the anal tube.

Holotype, male, collected at the CHIRICAHUA MTS., ARIZONA, Sept. 9, 1935 by F. H. Parker. Allotype female and male and female paratypes collected at Tasquillo, Hidalgo, Mexico (K-174) October 30, 1945, by DeLong, Hershberger and Elliott; also same locality October 29, 1941, by Good and DeLong. Paratype male collected at Cave Creek, Arizona, Chirichua Mts., Arizona, Sept. 16, 1935, by F. H. Parker (specimen loaned by R. A. Flock).